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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/091,074

03/05/2002

David M. Tallman

01-EDP-451

6699

7590

12/24/2003

Martin J. Moran  
Cutler-Hammer Products  
Technology & Quality Center  
170 Industry Dr., RIDC Park West  
Pittsburgh, PA 15275

EXAMINER

LEJA, RONALD W

ART UNIT

PAPER NUMBER

2836

DATE MAILED: 12/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

### Office Action Summary

Application No.

10/091,074

Applicant(s)

TALLMAN ET AL.

Examiner

Ronald W Leja

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2002.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4-6,10,12,14-16 and 19 is/are rejected.
- 7) ☒ Claim(s) 2,3,7-9,11,13,17,18 and 20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All   b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet, 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet, 37 CFR 1.78.

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3/5/02.                      6) ☐ Other:

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1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claims 1, 4-6, 10, 12, 14-16 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crick (4,291,204).

Crick discloses (see Fig. 1) a pulsing apparatus for an electrical system having a nominal voltage and a rated voltage so as to identify an arcing fault in the system. Crick is concerned with locating a high resistance short, which is considered to be an arc fault location, but does not disclose limiting an average value of the current to less than about 6mA. However, it would have been obvious to limit the current, such as to about 6mA, so as to help prevent

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welding or burning of the conductors, during testing. The means for generating is (22), the means for transforming is (12) and the means for outputting include (52,54,56, 48, 50) (48,50 - for Claim 12). The input voltage is obtained from a battery, however, the negative terminal is considered to be a return and thus a line neutral terminal, thereby making (T1,T2) load and load neutral/ground terminals, respectively (for Claims 4, 14, 15). Claim 5 essentially adds use of a fuse. It would have been obvious to add a fuse for the added protection and safety that a fuse offers and in case of an accident or a fault developing within the apparatus, the apparatus is quickly cut-off. Claim 6 requires that the generating means comprises a relay, coil and contact. Such means for pulse generation are known in the art, and as such, it would have been obvious to utilize such means for generating, wherein the robustness (operating temperature due to duty operation) of a relay, coil and contact was deemed necessary, thereby increasing apparatus application and reliability. The specific number of turns for the primary and secondary coils as required by Claim 10 would have been obvious as a matter of engineering design choice. Such a choice is dependent upon the applications for testing anticipated for use by the apparatus. Different electrical systems have different size conductors and varying length for the conductors, thereby requiring more or less output voltage in order to locate the arc fault/high impedance short position; one of ordinary skill would pick and choose the appropriate winding turns. Claim 19 requires the first and second voltages to be

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associated with a circuit breaker housing. It would have been obvious to utilize the apparatus of Crick at a convenient location to tap into the electrical system, such as, at an accessible circuit breaker, thereby, not having to create any undesired additional breaks within the system.

3. Claims 2, 3, 7-9, 11, 13, 17, 18 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. The following is a Statement of Reasons for the Indication of Allowable Subject Matter: The Prior Art of Record does not appear to offer strong motivation for modifying the primary reference, Crick (4,291,204) so as to offer an AC input voltage to the first terminals and to utilize the input AC voltage as the first voltage; nor to incorporate use of a second resistor as required by Claim 13.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronald W Leja whose telephone number is (703) 308-2008. The examiner can normally be reached on Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (703) 308-3119. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

*Ronald W. Leja*  
Ronald W Leja  
Primary Examiner  
Art Unit 2836

rw1

December 14, 2003

*12/14/03*